

MRID: 00025435  
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00046269DATA EVALUATION REPORT

1. CHEMICAL: Simazine  
Shaughnessy Number: 080807
2. FORMULATION: 50% a.i.
3. CITATION: Swabey, Y.H.; Schenk, C.F. (1963) Report on Algacides and Aquatic Herbicides. Unpublished study received Jan. 5, 1968 prepared by Ontario Water Resources Commission, submitted by Shell Co. Acc#000755.
4. REVIEW DATE: 6/17/83
5. REVIEWED BY: Daniel Rieder  
Wildlife Biologist  
EEB/HED
6. TEST TYPE: 96-hours fish toxicity
  - A. Species: Emerald shiner
  - B. TEST Material: 50% Simazine
7. RESULTS: No mortality at 18 ppm, highest level tested. It was tested at only 5.6, 10, and 18 ppm because the researchers considered the solubility of Simazine to be no more than 5 ppm.
8. CONCLUSION:

This study does not meet guideline requirements because the emerald shiner is not appropriate and no LC50 was generated. The study does provide useful supplemental information and shows that Simazine is not toxic to warmwater fish at 18 ppm, which is greater than the solubility at 20°C.

METHODS

Emerald shiners from Lake Erie were tested for 96-hours in 3 concentrations of Simazine (5.6, 10, and 18 ppm) five fish were tested per level, 10 were retained as a control. This was a multiple chemical study and it is assumed that one control sufficed for all chemicals. The solubility for simazine is considered to be no more than 5 ppm, therefore the highest level tested was greater than the solubility. No solvents were mentioned. DO was measured at the beginning and after mortalities occurred.



RESULTS

No mortality occurred at any level tested.

REVIEWERS COMMENTS

This study suggests that simazine is practically non-toxic to warmwater fish. It does not fulfill guideline requirements because only 5 levels were tested, the emerald is not listed by Stephen as an appropriate test species. Solubility would be a problem in trying to generate a 96-hr LC50. Also only 5 fish were tested per level.

CONCLUSION

Category: Supplemental

Rationale: See Reviewers Comment

Repairability: ~~Not~~ repairable.

have been obtained with other groups of fish. Aqualin was originally tested with common shiners, Notropis cornutus. Median tolerance limits derived for this species were 0.25 ppm. at four hours and 0.07 ppm. from 24 to 96 hours.

Table 4. Acute toxicity of algicides and herbicides to lake emerald shiners.

Product	Liquid Gran. Powder	4 hr.	TLm, ppm. active	
			24 hr.	48 hr.
Aquathol-Silvex	L	>1000	780	612
Weed Rhap 20	Gr.	>1000	620	620
Amitrol T	L	910	455	455
Kurosai G	G	1100	540	450
Crop Rider	G	500	280	280
Kurosai SL	L	509	520	310
Reglone (DB)	L	>180	>180	86.2
Fenac	Gr.	>100	45.5	25.8
Fenac	L	>100	42.5	29.0
Atrazine	Pdr.	42.5	24.0	24.0
Reglone (DC)	L	>180	15.5	15.6
Atlas A	L	>32	13.5	9.1
Stam F-34	L	13.5	7.5	8.1
Esteron 99	Gr.	>10.0	4.3	7.5
Carlon	L	>10.0	4.2	4.3
Urab	L	5.6	4.7	4.2
Urcx	L	>5.6	4.0	4.3
Hyamine 2339	L	2.9	2.4	4.0
FM-925	L	>10.0	7.5	2.4
Kurch	L	>10.0	4.0	2.9
Hyamine 3500	L	>1.0	0.75	2.4
Perco 191	L	0.75	0.40	2.0
Copper sulfate	Gr.	>0.8	0.10	0.75
Hydrochlor 47	L	0.29	0.12	0.35
Phygon XL	Pdr.	0.06	0.04	0.10
Aqualin	L	0.10	0.04	0.04
NIA 5625	L	>0.10	0.04	0.04
Simazine	Pdr.	Non-toxic up to 16 ppm.	0.07	0.04

Differences in fish toxicity due to variations in formulation of chemical as mentioned earlier, are noteworthy. The toxicity of 2,4-D pre-